

SECTION A: 40 MARKS

Attempt **all** questions in this section.
Questions 1 to 20 carry two marks each.

1. Work out:

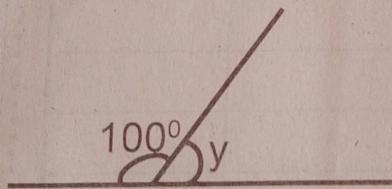
$$\begin{array}{r} 1 \ 2 \\ \times \ 4 \\ \hline \end{array}$$

2. Write 94 in Roman numerals.

3. Given that set P = {a, b, c, d, e} and set Q = {a, e, i, u}. Find n(P ∪ Q).

4. Simplify: $\frac{11 - 2}{12 - 3}$

5. Find the value of y in the figure below.



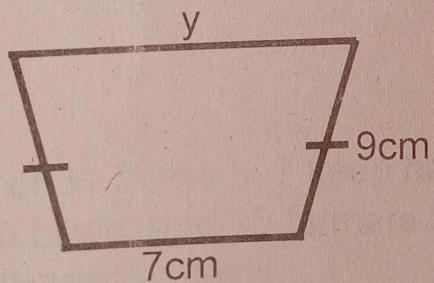
6. Nakate buys a packet of pens for sh. 10,400 and sells it for sh. 15,600. The selling price of 8 pens is equal to the buying price of a packet. How many pens are contained in a packet?

7. A team leader recorded points scored by different members as follows;
3, 4, 2, 2, 3, 4, 2.
Find the modal frequency of the scores.

8. Convert 101_{two} to base ten.

9. Jjunju worked for $2\frac{1}{2}$ hours. Express this time in minutes.

10. The perimeter of the figure below is 45cm. Calculate the length marked y in cm.



11. Using a ruler, a sharp pencil and a pair of compasses only, construct an angle of 90° in the space provided below.

12. Give the solution set for $x \leq +1$.

13. Find the number of mangoes that can be divided by 9 pupils or 6 pupils
to leave a remainder of 4.

14. Write the number 40,050 in words.

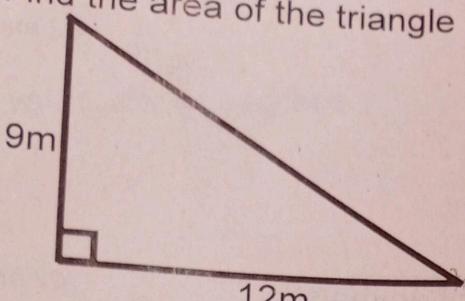
15. Work out: $+8 - +5$.

16. Simplify: $9b - 2b$.

17. Express $0.\overline{21}$ as a common fraction in the simplest form.

18. List all the factors of 8.

19. Find the area of the triangle below.



20. Leo left town A at 9:30am and drove to town B. He arrived at B at 12:30p.m. Calculate the time he took driving.

SECTION B: 60 MARKS

Attempt all questions in this section.

Marks for each part of the question are indicated in the brackets.

21. (a) Express 200_{five} to base ten. (02 marks)

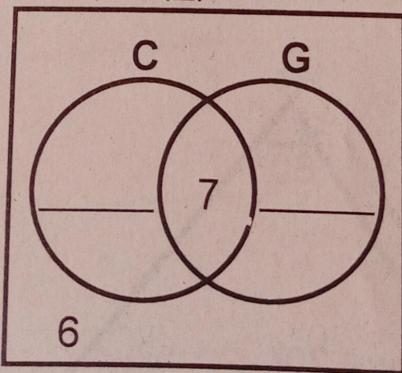
(b) If $20_x = 1010_{\text{two}}$, find base x. (03 marks)

22. Out of 31 farmers, 7 keep both cows (C) and goats (G). K farmers keep cows, and 15 farmers keep goats while 6 farmers do not keep the mentioned animals.

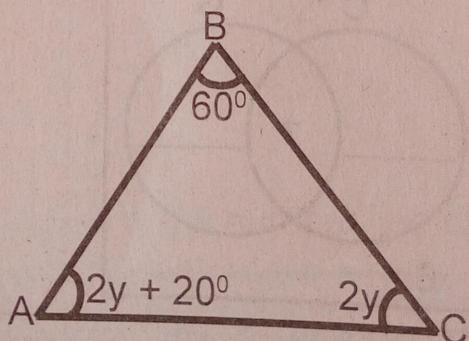
(a) Use the above information to complete the Venn diagram below.

$$n(\Sigma) = 31$$

(02 marks)



- (a) (b) Find the value of K. (02 marks)
- (c) How many farmers keep only one type of animals? (02 marks)
23. In a hospital, there are 50 male workers. 60% of the hospital workers are female.
- (a) Find the total number of workers in the hospital. (03 marks)
- (b) By what percentage is the number of female workers more than that of male workers in the hospital? (02 marks)
24. The diagram below ABC is a triangle. Study and use it to answer the questions that follow.



(03 marks)

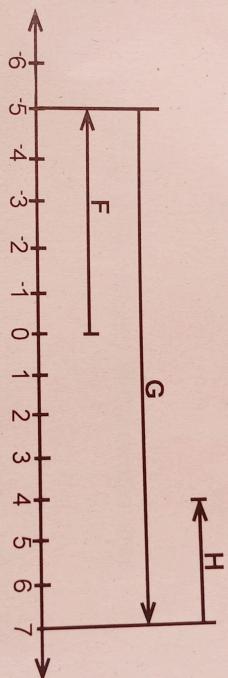
(a) Find the value of y in degrees.

LAP - 14
LA1 -
LA1 -

(b) Find the size of angle marked **BCA**.

(02 marks)

25. The number line below represents addition operation. Study and use it to answer the questions that follow.



(a) Write the value of the integers represented by arrows **H**, **F** and **G**.

(03 marks)

(i) H: _____

(ii) F: _____

(iii) G: _____

(b) Draw an answer arrow to complete the number line above.

(01 mark)



26. A motorist started his journey of 180km at 8:00a.m. The journey took him 3 hours.

(02 marks)

(a) Calculate his speed in km/h.

(b) At what time had the motorist covered 120km?

(03 marks)

27. With the help of a ruler, a sharp pencil and a pair of compasses only, construct a square ABCD, where line BC = 6cm.

(04 marks)



28. (a) Given that $a = 2$, $b = 3$ and $c = 5$. Find the value of $ab + bc$.

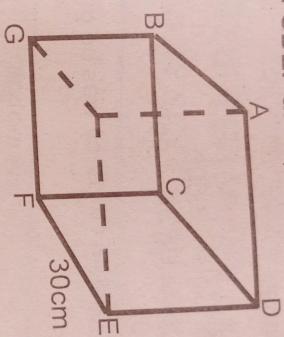
(03 marks)

(b) Solve for x: $3x - 3 = 33$.

(02 marks)



29. The diagram below shows a rectangular tank. The area of the surfaces $BCFG$ and $CDEF$ are $3,500\text{cm}^2$ and $2,100\text{cm}^2$ respectively.



(a) Find the height of the tank.

(02 marks)

(b) Find the area of the top cover $ABCD$ of the tank.

(02 marks)

(c) Calculate the capacity of the tank in litres.

(02 marks)

30. (a) Find the GCF of 9 and 12.

(02 mark

(b) Find the sum of the second and the fourth prime numbers.

(02 ma

31. Mr. Bogere arrived in Uganda with the following currencies;

- (i) US dollars (\$) 400
- (ii) Pound Sterling (£) 300
- (iii) Kenya shillings 2000

If 1 US dollar (\$) costs Ug sh. 3,600,

1 Pound Sterling (£) costs Ug sh. 4,000,

1 K.sh costs Ug sh. 40,

How much money in Uganda currency was he given in the Forex bureau altogether? (04 marks)

32. The pie chart below shows Nalongo's last year's expenditure of sh. 1,440,000 on her son's school requirements. Calculate the amount of money Nalongo spent on the requirements per term. (04 marks)

